

REMARKS

STATUS OF CLAIMS

Claims 1-12 have been pending.

Claims 1-4, 6, and 8-12 are rejected under 35 USC 102(b) as being anticipated by USING AUTOCAD, release 10 with 3D, 1989 (i.e., James E. Fuller, Using AutoCAD Release 10 With 3-D, 3rd ed., Delmar Publishers, Inc., chap. 6, p. 6-6 to 6-8; chap 12, p. 12-21, chap 14, p. 14-24 to 14-25; chap. 16; chap 19 (1989) ("USING AUTOCAD").

Claim 7 is rejected under 35 USC 103(a) as being unpatentable over USING AUTOCAD.

Claim 5 is objected as being allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

Claims 2-5, 7, 11, and 12 are amended, new claims 13-15 are added. Thus, claims 1-15 remain pending for reconsideration, which is respectfully requested.

No new matter has been added in this Amendment. The foregoing rejections are hereby traversed.

OBJECTED TO DEPENDENT CLAIM 5 AND INDEPENDENT CLAIM 4

Objected to dependent claim 5 is amended into independent form. Therefore, withdrawal of the objection to claim 5 and allowance of claim 5 is respectfully requested. Further, the Examiner rejects independent claim 4 by asserting in page 3, of the Office Action: "it is well known if you can combine objects one way the reverse ways is also possible." However, the Examiner's rationale is not appropriate in view of allowing claim 5, which recites at least one patentably distinguishing feature also recited in independent claim 4. More particularly, claims 4 and claim 4, using claim 4 as an example, recite:

setting as an edit target ~~the~~ basic configuration finally combined with respect to the first selected in-the-making configuration, wherein said selecting further includes selecting a ~~first in-the-making configuration and a second in-the-making configuration~~, and the program further comprises changing a combination sequence of the basic configuration set as ~~an~~ the edit target with the selection of the first in-the-making configuration, to just posterior (or just anterior) to the second in-the-making configuration (independent claim 4, as amended to improve form).

In particular, USING AUTOCAD does not disclose or suggest, the present invention's

patentably distinguishing feature as recited in independent claims 4 and 5, using claim 4 as an example, for “displaying, on said display screen, in-the-making configurations from a first basic configuration as a start configuration down to the final three-dimensional configuration; ... and “setting as an edit target ~~the~~a basic configuration finally combined with respect to the first selected in-the-making configuration, wherein said selecting further includes selecting ~~a first in-the-making configuration and~~ a second in-the-making configuration, and ... changing a combination sequence of the basic configuration set as ~~an~~the edit target with the selection of the first in-the-making configuration, to just posterior (or just anterior) to the second in-the-making configuration.” As also discussed below, support for independent claims 4 and 5 can be found for example, on page p. 17, line 9 to p. 18, line 8 and FIGS. 5 and 7, in which the “final three-dimensional configuration” is changed from 35b to 35d by changing a combination sequence of adding the sweep hole 37, which is an “in-the-making configuration,” in the left column to the sweep 35a, to adding the sweep hole 37 in the right column to sweep 35c.

Therefore, it is understood that both independent claims 4 and 5 are in allowable condition.

CLAIM REJECTIONS

Claims 3 and 7 previously rewritten from dependent form into independent form are amended back to be in dependent form depending from independent claim 2.

INDEPENDENT CLAIMS 1, 2, 11, 12, AND NEW INDEPENDENT CLAIM 13:

In page 2, Response to Arguments, of the outstanding Office Action of December 12, 2003, the Examiner indicates that different chapters of USING AUTOCAD are used to reject the present claimed invention. In particular, in page 2, item 3, of the Office Action, the examiner newly relies on portions of chapter 12 (Intermediate Edit Commands - Trim Command, page 12-21, FIG. 12-20) of Fuller to reject the present invention's independent claims 1, 2, 11 and 12.

New independent claim 13 is a method claim providing an alternative recitation of the present invention.

The Applicants wish to clarify the Examiner's understanding of the term “in-the-making configuration” as used and claimed in the present invention. An “in-the-making configuration” is a basic configuration that illustrates one operation of a plurality of basic configuration operations that are executed in creating a final CAD configuration (see, for example, FIG. 5, left column “in-the-making configurations” 35, 35a, 35b, and right column “in-the-making configurations” 35,

35c and 35d, of the present Application). In particular, in contrast to USING AUTOCAD, the present invention, as recited in independent claims 1, 2, 11, 12 and new independent claim 13, using new independent claim 13 as an example, recites, "receiving a designation of a three-dimensional CAD configuration from a user; displaying a sequence of a plurality of in-the-making CAD configurations generating the designated three-dimensional CAD configuration." In other words, for example, USING AUTOCAD in chapter 6, FIGS. 6-1, 6-2, 6-3; and in chapter 12, FIG. 12-20, does not display with respect to a final three-dimensional CAD configuration, "a sequence of a plurality of in-the-making CAD configurations generating the designated three-dimensional CAD configuration" (e.g., new independent claim 13), because the USING AUTOCAD Figures, including FIGS. 6-1 through 6-3 and 12-20 as relied upon by the Examiner, only display a sequence of the drawings for the drawing PROJ 1 during an example edit operation, but none of the USING AUTOCAD figures provide the present invention's "displaying a sequence of a plurality of in-the-making CAD configurations" used to create or generate the drawing PROJ 1, which is now being edited in the example on page 6-7. Support for the new independent claims, including the new independent claim 13 (and dependent claims 14-15 thereof), can be found, for example, in FIGS. 3, 5, 6 and 7, and page 12, line 1 to page 18, line 8, of the present Application. The Applicant's respectfully assert that the present invention's claimed, "displaying a sequence of a plurality of in-the-making CAD configurations generating the designated three-dimensional CAD configuration" would not be obvious to one skilled in the art, as follows:

For example, Figures 3, 5, 6, and 7 in the present Application illustrate plenty of examples of present invention's claimed "displaying ... in-the-making configurations" and processes that are preformed related thereto. Specifically, in-the-making configurations 35-35a and 35-35c of Figure 5 each illustrate a plurality of operations that are executed in creating two final CAD configurations 35b and 35d. As explained in the Specification for FIG. 5, left column, in-the-making configuration 35a is created by adding sweep 36 to sweep 35, and by adding sweep hole 37 to in-the-making configuration 35a, thereby generating a first final three-dimensional configuration 35b. Instead, for FIG. 5, right column, the in-the-making configuration 35c is created by adding sweep hole 37 to sweep 35, and by adding sweep 36 to the in-the-making configuration 35c, thereby generating a second final three-dimensional configuration 35d. See, specification, p. 14, line 19 to p. 15, line 4). Therefore, the final three-dimensional CAD configurations 35b and 35d depend on the "in-the-making configurations," such as a sequence of the "in-the-making configuration" or configuration/attribute of the "in-the-making configurations." In contrast to USING AUTOCAD, the present claimed invention

provides FIG. 5, for “displaying a sequence of a plurality of in-the-making CAD configurations generating the designated three-dimensional CAD configuration” (e.g., new independent claim 13) and “displaying, on said display screen, in-the-making configurations from a first basic configuration as a start configuration down to the final three-dimensional configuration” (e.g., claim 1).

Accordingly, in contrast to USING AUTOCAD, the present claimed invention allows “selecting one of the in-the-making configurations displayed; and setting as an edit target the basic configuration finally combined with respect to the selected in-the-making configuration” (e.g., claim 1), which has a benefit of allowing editing the displayed “in-the-making configurations” to consequently affect the “final three-dimensional configuration.” For example, as explained with reference to Figure 7 and the right-hand column of Figure 5 of the Specification, a change of sequence of the “in-the-making configurations” can change the “final three-dimensional configuration” 35b to 35d. In particular, the specification, p. 15, lines 5-7; and p. 17, line 9 to p. 18, line 8, explains that in FIG. 5, left column, if the combination of the sweep hole 37, which is shown with bold lines at sequence 41a, is selected to be combined with sweep 35 at sequence 41b as a moving destination, which is shown in the right hand column of FIG. 5, the “final three-dimensional configuration” 35b is changed to the “final three-dimensional configuration” 35d. Therefore, one advantage of the present invention is the display of the in-the-making configurations of a final three-dimensional configuration, which are otherwise invisible in conventional CAD systems, and which enable the user to change the final three-dimensional CAD configuration by changing the in-the-making configurations, without having to begin anew. (Specification, p. 15, lines 7-18).

In contrast, USING AUTOCAD discusses editing a CAD object, e.g., moving and deleting portions of the CAD object. However, USING AUTOCAD does not disclose or suggest the present invention’s, “displaying ... in-the-making configurations ... to the final three-dimensional configuration,” as recited in independent claims 1, 2, 11, 12 and new independent claim 13. The examiner cited page 12-21 and Figure 12-20 of USING AUTOCAD as disclosing the present invention, but upon closer examination, the cited section of USING AUTOCAD only discusses editing CAD objects that could be similar to the objects illustrated in Figures 17 and 18 of the Specification, but USING AUTOCAD does not display corresponding “in-the-making configurations” of such CAD objects as shown in FIG. 5 of the present Application. In other words, USING AUTOCAD does not even contemplate the claimed concept of “displaying ... in-the-making configurations” of a CAD object as a final three-dimensional configuration, such that

USING AUTOCAD cannot revisit the creation history of each CAD object to change one of the operations that were used to get the CAD object to its final state.

Again, a good example of the difference between the present claimed invention and USING AUTOCAD is illustrated in Figures 5 and 7 of the Specification. In Figure 5, the left-hand column illustrates one sequence of operations that yields the "final three-dimensional configuration" 35b. Figure 7 illustrates an editing operation whereby the sequence of operations is changed such that the new sequence of "in-the-making configuration" operations yields "final three-dimensional configuration" 35d, as illustrated in the right-hand column of Figure 5. If a user wanted to change the "final three-dimensional configuration" 35b to the "final three-dimensional configuration" 35d using the AUTOCAD chapters 6 and 12, the user would be required to fill a portion of sweep 37, which would require much more complex determinations of the properties of filling. Accordingly, in contrast to USING AUTOCAD, the present invention as recited in independent claims 1, 2, 11, 12, and 13, using claim 1 as an example, provides,

displaying, on said display screen, in-the-making configurations from a first basic configuration as a start configuration down to the final three-dimensional configuration;

selecting one of the in-the-making configurations displayed; and

setting as an edit target the basic configuration finally combined with respect to the selected in-the-making configuration (emphasis added).

CONCLUSION

Dependent claims 3-4 and 6-10, depending (directly or indirectly from independent claim 2) recite patentably distinguishing features of their own. For example, claim 6 recites "deleting the edit target basic configuration from the combination of the basic configuration forming the final three-dimensional configuration."

Regarding dependent claim 7, the Examiner's well known allegation in page 4, item 12, is hereby traversed, because USING AUTOCAD does not disclose or suggest anything about the present invention's "displaying ... in-the-making configurations from a first basic configuration as a start configuration down to the final three-dimensional configuration," so USING AUTOCAD would not have a need or a motivation to provide the present invention's option of "setting the edit target basic configuration in a non-display state (or a display state from the non-display state) with respect to the combination of the basic configurations for forming the final three-dimensional configuration," as shown in FIG. 6 and page 16, lines 11-19, of the present Application.

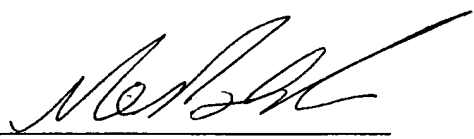
In view of the remarks and the claim amendments, withdrawal of the rejections of claims 1-4 and 6-12 and allowance of claims 1-15 is respectfully requested.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
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